

REMARKS

Claims 2-4, 7-9, 1-13 and 16-20 are pending. By this Response, claims 2-4, 7-9, 11 and 18 are amended, claims 1, 5, 6, 10, 14 and 15 are canceled and claims 19 and 20 have been added and the Figures are corrected. Reconsideration and allowance based on the above amendments and following remarks are respectfully requested.

Applicants appreciate the indication of claims 3, 4, 7, 8, 12, 13, 16 and 17 as containing allowable subject matter.

The Office Action objects to Figs. 6-9 alleging that they should be designated by a legend such as "PRIOR ART". Applicants note that Figs. 6-9 refer to conventional art and therefore have been labeled as "CONVENTIONAL ART" to satisfy the requirements set forth in MPEP §608.02(g).

Further, the Office Action objects to Figs. 4, 8C and 8D due to misspelled labelings. Applicants have corrected these errors. Accordingly, applicants respectfully request withdrawal of the objections to the drawings.

The Office Action objects to claims 9 and 18 as being unclear. Applicants have amended claims 9 and 18 to clarify the features recited therein. Accordingly, withdrawal of the objection is respectfully requested.

The Office Action rejects claims 1, 2, 10 and 11 under 35 U.S.C. §103(a) as being unpatentable over Ando, et al. (U.S. Patent No. 5,717,641); claims 5, 6, 14 and 15 under 35 U.S.C. §103(a) as being patentable over Ando in view of Sawada, et al. (U.S. Patent No. 6,219,381) and claims 9 and 18 under 35 U.S.C. §103(a) as

being unpatentable Ando in view of Katata, et al. (U.S. Patent No. 5,631,644). These rejections are respectfully traversed.

Ando teaches a data storing method in which data is coded at a determined data rate. The coded data is sectioned into packets and supplied to a memory 2. The coder 1 also detects the maximum amount of coded data in each packet and provides this to a data memory 4. The amount of data of each packet is then supplied to the control circuit 3 via the control data memory 4.

When a coded data is selected and read by the control circuit 5, in response from a terminal 12, dummy data is added to the coded data by the dummy data adding circuit 6, if necessary, prior to transmission. See column 2, lines 50-67 to column 3, lines 1-40. Dummy data is added based on the amount of data in each packet and the output data rate. Therefore, the dummy data is added to the coded data such that the coding rate per predetermined interval t is made larger than a fixed data rate greater than the maximum coding data rate. See column 4, lines 47-58. Dummy data is either added at the end of a packet or between subpackets. See column 4, lines 63-67.

In contrast, embodiments of the present invention utilize a code volume control to determine the stuffing used in a coded packet based on a minimum code volume. The minimum code volume is obtained for each video object plane (VOP) unit image of the video packet.

The Office Action alleges that the dummy data adding circuit provides the code volume control. Applicants respectfully submit that, as described at column

4, lines 47-58, the dummy data adding circuit adds dummy data based on a data rate and the amount of data in a packet. The dummy data adding circuit does not utilize the minimum code volume or video object planes (VOP) within its methods. In fact, nowhere in Ando does it teach or suggest utilizing VOP's and minimum code volumes as claimed by applicants.

Further, even if the dummy data's adding circuit 6 could be considered as applicant's claimed code volume control, which applicants contend it cannot, the dummy data adding circuit 6 does not control the transfer of data from the data memory 2 to the data memory 4 of Ando. Thus, the claimed feature of controlling the transferred data from the first storage unit to the second storage unit by the code volume control is not taught.

Thus, Ando fails to teach or suggest, inter alia, a second storing unit for storing an output from said first storing unit a code volume controller for controlling transfer of said codes stored in said first storing unit to said second storing unit based on the code volume of said code obtained by said coder such that a length of a video packet constituted by said code is predetermined length or less wherein said code volume controller controls storage of a stuffing in said second storing unit based on a minimum code volume obtained from each VOP unit image constituted by a video packet which is required for coding said unit image, as recited in independent claims 2 and 11.

Further, in regard to dependent claims 9 and 18, applicants respectfully submit that the combination of Ando and Katata fail to teach or suggest the

features as recited in claims 9 and 18. Katata teaches an encoding apparatus in which image information is quantized and a variable length encoding is performed so that data can be stored in a buffer. After being stored in a buffer, the data is then transmitted to outside the device at a fixed data rate. In contrast, in the embodiments of the present invention, the minimum code volume T_{\min} is set for each VOP, and a break of the video packet in the insertion of the stuffing are determined such that the code volume Sc of the VOP is not smaller than the minimum code volume T_{\min} .

Thus, Katata and Ando alone or in combination fail to teach or suggest, *inter alia*, said code volume controller inserts a stuffing into a video packet while a first relationship is satisfied, when a present code volume of a unit image including a last coded macroblock constituting said unit image is smaller than said minimum code volume T_{\min} of said unit image and said code volume controller constitutes a new video packet next to said video packet by inserting a macroblock next to said last coded macroblock without inserting a stuffing into said video packet, when said first relationship is not established and when a second relationship $(M-1) \cdot VPlen < T_{\min} - Sc$, as recited in claims 9 and 18.

Further, Sawada fails to make up for the deficiencies of Ando and Katata.

In view of the above, applicants respectfully submit that Ando, Katata and Sawada in combination or alone fail to teach or suggest each and every feature of the claimed invention as required. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

Conclusion


For at least these reasons, it is respectfully submitted that claims 2-4, 7-9, 11-13 and 16-20 are distinguishable over the cited art. Favorable consideration and prompt allowance are earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Chad J. Billings (Reg. No. 48,917) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP



By _____
D. Richard Anderson
Reg. No. 40,439

DRA/CJB:cb
2257-0176P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000